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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-7367

Mr. Duane Heaton
Deputy Project Officer
Emergency Support Section, 5 HS-12
U.S. Environmental Protection Agency
230 South Dearborn St.
Chicago, Illinois 60604

September 25, 1990

TAT-05-G2-02116

Re: Torch Lake Site Investigation, Hubbell, Michigan
TDD# 5-9007-31

Dear Mr. Heaton:

On July 30, 1990, the U.S. Environmental Protection Agency (U.S. EPA) tasked the Technical Assistance Team (TAT) to collect samples of suspected hazardous material from drums located along the shoreline of Torch Lake in Hubbell, Michigan (Figure 1). Torch Lake has been on the U.S. EPA's National Priorities List since 1984. This letter report provides details of the sampling conducted by TAT at Torch Lake, along with analytical results.

Previously, on June 21, 1989, the U.S. EPA tasked the TAT to collect eight drum and five soil samples from the western and northern shores of Torch Lake (TDD# 05-8906-06). Subsequent analysis indicated the samples were non-hazardous (Attachment B).

On August 1, 1990, the TAT returned to the Torch Lake area to sample additional drums suspected of containing hazardous material. The TAT collected a total of nine drum samples along the western shoreline of Torch Lake at four different locations: near the old electric plating warehouse 1/4 mile south of the Lake Linden village limits; at a stamping pad foundation 3/4 mile south of Hubbell off of M-26; at two lagoons in Tamarack City; and at a site east of M-26 near Mason (Figure 2). The location of each sampling point is as follows:

- o Location 1 - Lake Linden. The TAT sampled four drums that were situated directly behind an old electroplating warehouse, along the lake's shoreline, on a south facing bank, adjacent to an old brick foundation (Sample Numbers: S-63, S-64, S-65, S-66).
- o Location 2 - Hubbell. The TAT sampled one drum that was located behind a stamping pad foundation, along copper tailings that ran perpendicular to Torch Lake (Sample Number: S-67).

Roy F. Weston, Inc.
MAJOR PROGRAMS DIVISION

In Association with ICF Technology, Inc., C.C. Johnson & Malhotra, P.C., Resource Applications, Inc.,
and R.E. Sarriera Associates

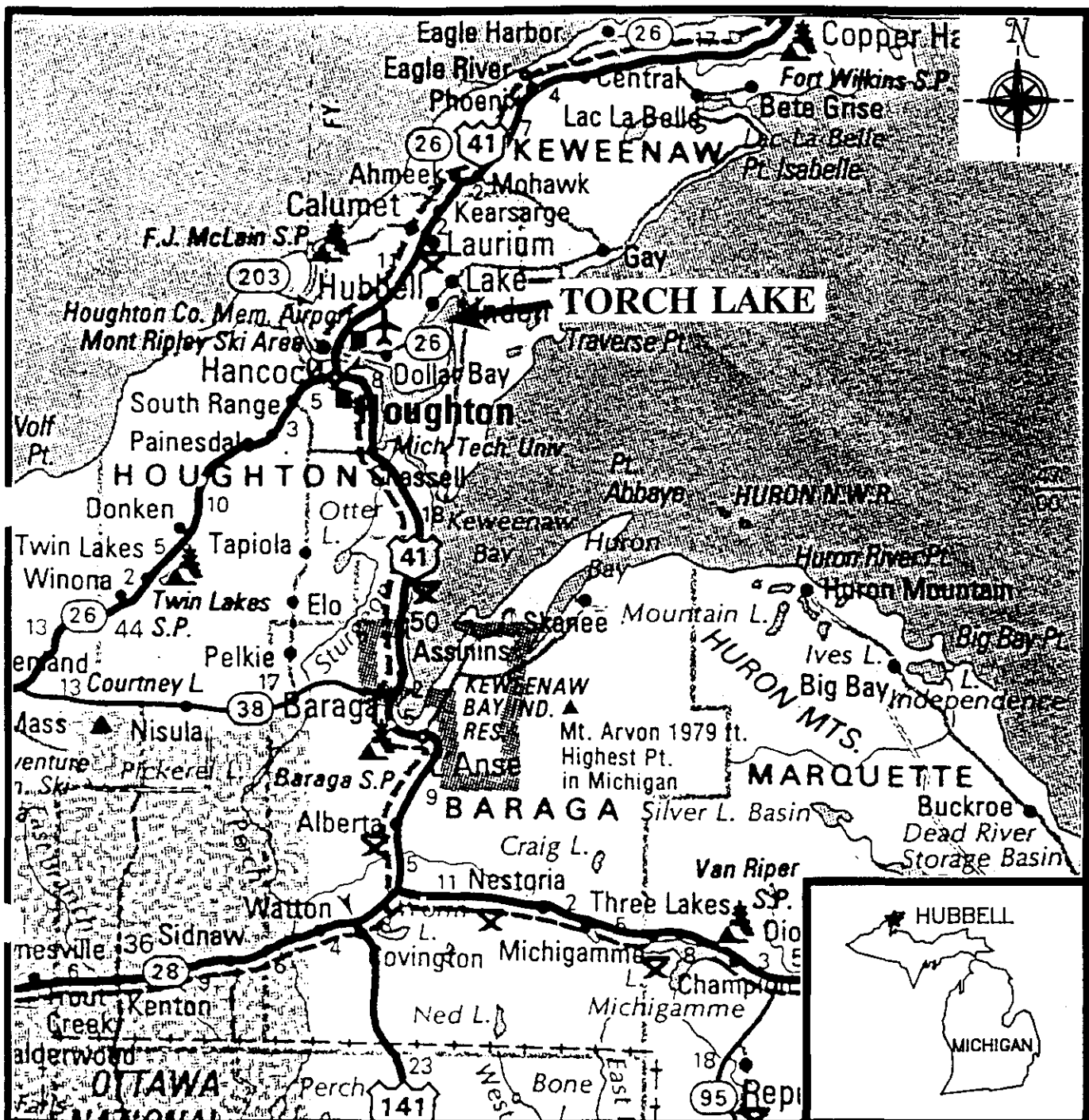


FIGURE 1

SITE LOCATION MAP

TORCH LAKE SITE INVESTIGATION

HUBBELL, MICHIGAN

SCALE: 1 INCH = 10 MILES

WESTON
MANAGERS DESIGNERS/CONSULTANTS

**MAJOR
PROGRAMS
DIVISION**

REGION V TECHNICAL ASSISTANCE TEAM

DRAWN BY J.M.
J. McCORMACK

DATE
8-31-90

PCS #
2833

APPROVED BY J.B.
J. BOECKMAN

DATE
8-31-90

TDD #
5-9007-31

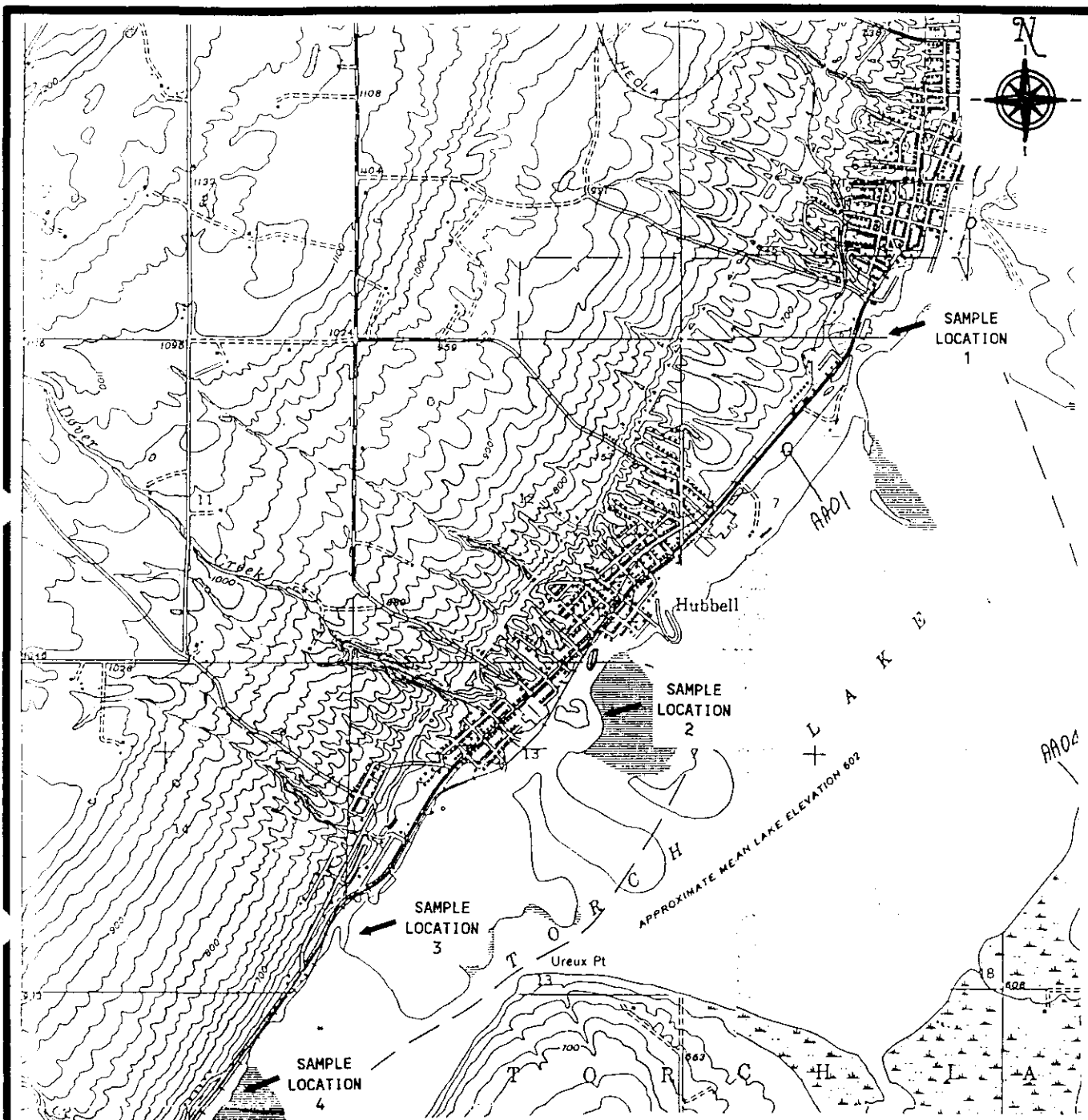


FIGURE 2

SAMPLE LOCATION MAP

TORCH LAKE SITE INVESTIGATION

HUBBELL, MICHIGAN

SCALE: 1 INCH = 1 MILE

WESTON
MANAGERS DESIGNERS/CONSULTANTS

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APPROVED BY *J. Boeckman*
J. BOECKMAN

DATE
8-31-90

TDD #
5-9007-31



Mr. Duane Heaton

-4-

September 25, 1990

- o Location 3 - Tamarack City. The TAT sampled two drums that were located along the eastern slope of an embankment above two wastewater lagoons (Sample Numbers: S-70, S-71).
- o Location 4 - Mason. The TAT sampled two drums that were located in the woods on the east side of highway M-26, off an access road to Torch Lake (Sample Numbers: S-68, S-69).

On August 7, 1990, the TAT sent the samples to EMS Heritage Laboratories in Darien, Illinois under TAT Analytical Services TDD# 05-9008-L1. The laboratory analyzed the samples for flashpoint, toxicity characteristic leaching procedure (TCLP) metals, F-Listed waste solvent scan, volatile organic compounds (VOC), and semi-volatile organic compounds (acid/base/neutrals).

On August 24, 1990, the TAT received the analytical results from EMS Heritage Laboratories. The analytical results indicated that drum sample S-68 is a Resource Conservation and Recovery Act (RCRA) F-Listed hazardous waste (40 CFR Part 261.31). The F-Listed waste constituents identified in sample S-68 were: methyl isobutylketone, o-dichlorobenzene, m,p-cresol, o-cresol, total xylene, and styrene. The analytical data also indicated the presence of several different VOCs in drum samples S-64, S-66, S-67, and S-69. The analytical results, which are summarized in Tables 1, 2, and 3, did not indicate the presence of RCRA hazardous waste in any other drum samples.

At the request of U.S. EPA On-Scene Coordinator (OSC) Walter Nied, the TAT prepared a draft action memo (Attachment C) for a removal action at the Torch Lake site. The draft action memo was submitted to OSC Nied on September 5, 1990

Should you have any questions or require additional information, please feel free to contact us.

Very truly yours,

ROY F. WESTON, INC.

Sally Matz
For Douglas D. Lozy
Environmental Geologist

William R. Doyle
William R. Doyle
Technical Assistance Team
Leader, Region V

DL/jbb
att.



TABLE 1

ANALYTICAL RESULTS OF TAT SAMPLING^a
TOXICITY CHARACTERISTIC LEACHING PROCEDURE-METALS ANALYSIS
TORCH LAKE SITE INVESTIGATION
HUBBELL, MICHIGAN
August 1, 1990

(All Results in mg/l)

Sample Number	S-63	S-65	S-70	S-71	
Sample Description	Light Brown Solid	Sandy Brown Solid	Gray Lava-Like Solid	Gray Lava-Like Solid	
TCLP Metals					TCLP Regulatory Level
Arsenic	ND	ND	ND	ND	5.0
Barium	ND	ND	ND	ND	100.0
Cadmium	ND	ND	ND	ND	1.0
Chromium	ND	ND	0.088	ND	5.0
Lead	ND	ND	ND	ND	5.0
Mercury	ND	ND	ND	ND	0.2
Selenium	ND	ND	ND	ND	1.0
Silver	ND	ND	ND	ND	5.0

^a Analysis conducted by EMS Heritage Laboratories, Inc., Darien, Illinois, under TAT Analytical Services TDD# 05-9008-LL.

ND - Not detected at method detection limits.

TABLE 2

ANALYTICAL RESULTS OF TAT SAMPLING^a
 F001-F005 SOLVENT SCAN, VOC ANALYSIS, AND FLASH POINT
 TORCH LAKE SITE INVESTIGATION
 HUBBELL, MICHIGAN
 August 1, 1990

Sample Number	S-68			
Sample Description	Black-Colored Liquid			
**** F001-F005 Solvent Scan Compound -- Concentration (mg/kg) ****				
Methanol	--	ND	Nitrobenzene	-- ND
Ethyl Ether	--	ND	M,P-Cresol	-- 13,000 ✓
1,1,2-Trichloro-			Trichlorofluoromethane	-- ND
1,2,2-Trifluoroethane	--	ND	Acetone	-- ND
Carbon Disulfide	--	ND	Methylene Chloride	-- ND
Methyl Ethyl Ketone	--	ND	Ethyl Acetate	-- ND
1,1,1-Trichloroethane	--	ND	Benzene	-- ND
Isobutanol	--	ND	Trichloroethylene	-- ND
N-Butanol	--	ND	2-Nitropropane	-- ND
2-Ethoxyethanol	--	ND	Pyridine	-- ND
Methyl Isobutylketone	--	130	Toluene	-- ND
Tetrachloroethylene	--	ND	1,1,2-Trichloroethane	-- ND
Ethyl Benzene	--	ND	Chlorobenzene	-- ND
Xylene (Total)	--	2,300	O-Cresol	-- 10,000 ✓
Cyclohexanone	--	ND	O-Dichlorobenzene	-- 9,800 ✓

**** Volatile Organic Compound -- Concentration (mg/kg) ****

Trichlorofluoromethane	-- ND
Carbon Disulfide	-- ND
Styrene	-- 1,200
Xylene (Total)	-- 1,900

**** Flash Point -- Degrees Fahrenheit ****

Flash Point	-- 180° F
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^a Analysis conducted by EMS Heritage Laboratories, Inc., Darien, Illinois, under TAT Analytical Services TDD# 05-9008-L1.

ND - Not detected at method detection limits.

TABLE 3

ANALYTICAL RESULTS OF TAT SAMPLING^a
 VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS
 TORCH LAKE SITE INVESTIGATION
 HUBBELL, MICHIGAN
 August 1, 1990

(All Results in ug/kg)

Sample Number	S-64	S-66	S-67	S-69
Sample Description	Tar-Like Semi-Solid	Black Peat-Like Solid	Tar-Like Semi-Solid	Tar-Like Semi-Solid
Volatile Organic Compound (VOC)		Concentration		
Acetone	2,000 ^b	5,800	ND	ND
Benzene	ND	170 ^c	ND	ND
Ethylbenzene	47 ^c	ND	ND	270 ^c
2-Hexanone	ND	2,500	ND	ND
1,2-Dichloroethene	ND	ND	1,600	ND
Methylethylketone	ND	2,000	ND	ND
Trichloroethene	ND	ND	13,000	ND
Toluene	53 ^c	160 ^c	200	9,600
Other VOC's	ND	ND	ND	ND
Semi-Volatile Organic Compound		Concentration		
All compounds	ND	ND	ND	ND

^a Analysis conducted by EMS Heritage Laboratories, Inc., Darien, Illinois, under TAT Analytical Services TDD# 05-9008-L1.

^b Detected in Laboratory Blank.

^c Estimated concentration.

ND - Not detected at method detection limits.

ATTACHMENT A

SITE PHOTOGRAPHS



PHOTO NO: 01
 SITE NAME: TORCH LAKE SAMPLING
 Hubbell, Michigan
 DESCRIPTION: Solid drum sample #63 was collected along shoreline near an abandoned plating warehouse (Location 1). Sample appeared light brown and powdery.
 DATE: 08-01-90
 PHOTOGRAPHER: D. Locy *[Signature]*

PHOTO NO: 02
 SITE NAME: TORCH LAKE SAMPLING
 Hubbell, Michigan
 DESCRIPTION: Drum sample #64 was collected on the shoreline near abandoned plating warehouse (Location 1). Sample was a tar-like semisolid and black in color.
 DATE: 08-01-90
 PHOTOGRAPHER: D. Locy *[Signature]*

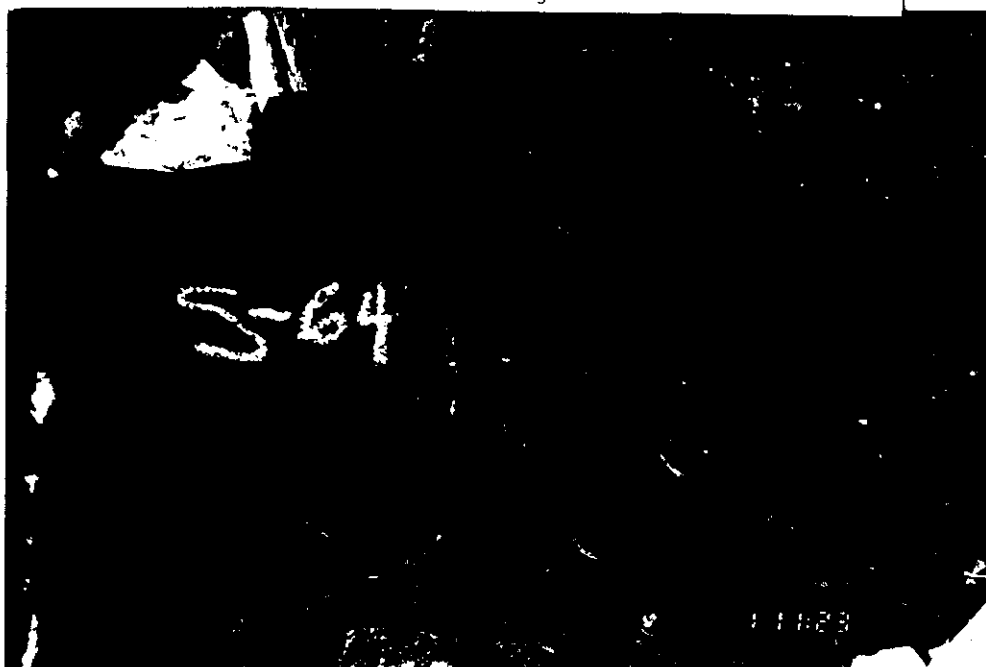




PHOTO NO: 03
SITE NAME: TORCH LAKE SAMPLING
Hubbell, Michigan
DESCRIPTION: Solid drum sample #65 was collected in a shoreline cove near the abandoned plating warehouse (Location 1). Sample had a sandy brown appearance.
DATE: 08-01-90
PHOTOGRAPHER: D. Locy *[Signature]*

PHOTO NO: 04
SITE NAME: TORCH LAKE SAMPLING
Hubbell, Michigan
DESCRIPTION: Solid drum sample #66 was collected in a shoreline cove near the abandoned plating warehouse (Location 1). Sample was peat-like and black in color.
DATE: 08-01-90
PHOTOGRAPHER: D. Locy *[Signature]*



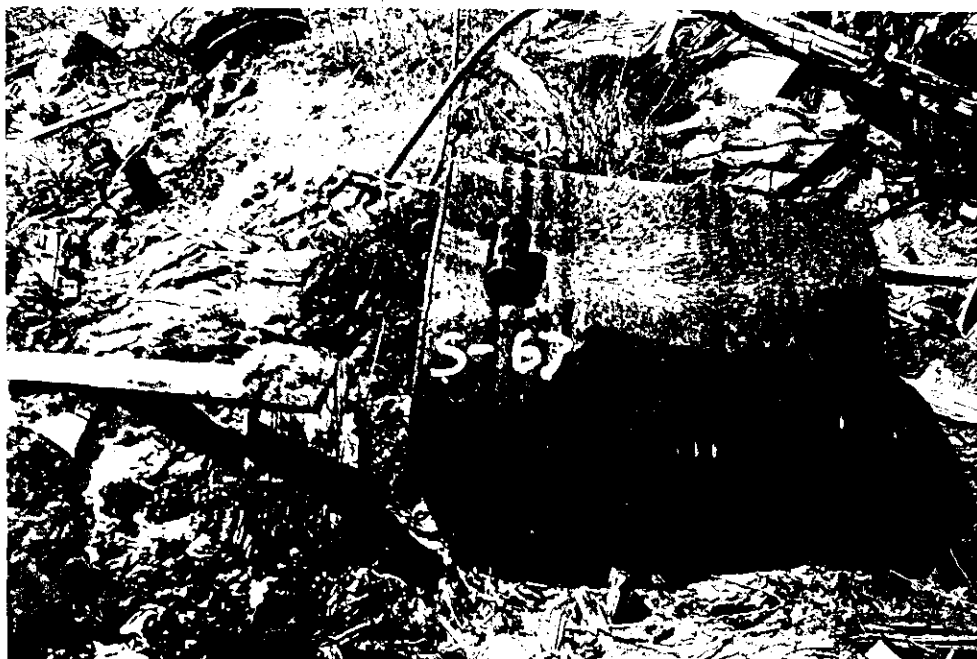


PHOTO NO: 05
 SITE NAME: TORCH LAKE SAMPLING
 Hubbell, Michigan
 DESCRIPTION: Drum Sample #67 was collected
 within copper tailings near
 the city of Tamarack (Lo-
 cation 2). Sample was a tar-
 like semisolid and black in
 color.
 DATE: 08-01-90
 PHOTOGRAPHER: D. Locy *[Signature]*

PHOTO NO: 06
 SITE NAME: TORCH LAKE SAMPLING
 Hubbell, Michigan
 DESCRIPTION: Liquid drum Sample #68 was
 collected in the woods
 between the State Route 41
 and the lake (Location 4).
 Sample was a black colored
 liquid.
 DATE: 08-01-90
 PHOTOGRAPHER: D. Locy *[Signature]*



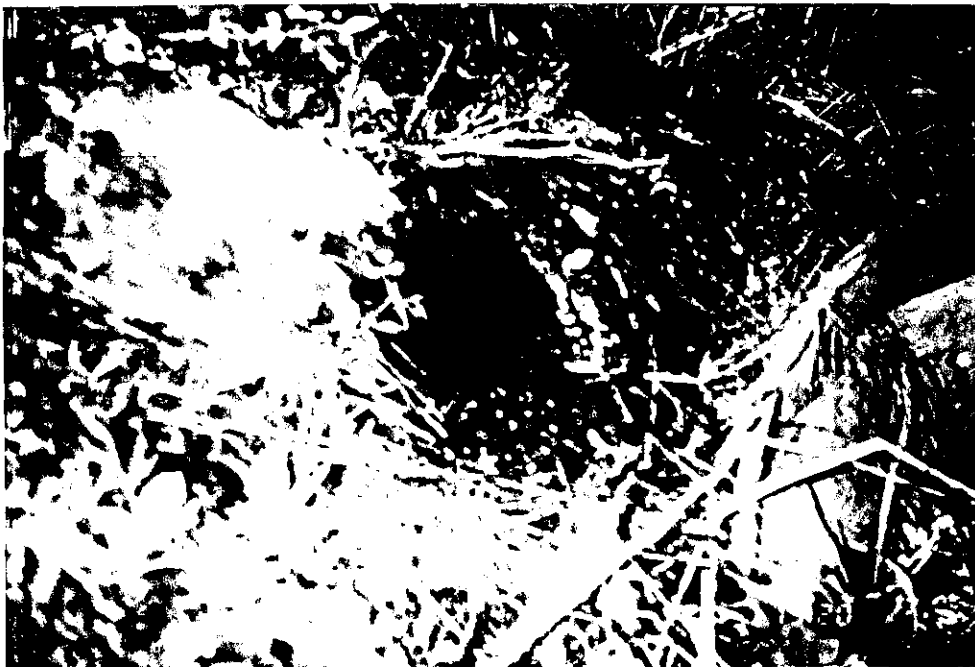


PHOTO NO: 07
 SITE NAME: TORCH LAKE SAMPLING
 Hubbell, Michigan
 DESCRIPTION: Drum Sample #69 was collected
 in the woods, between State
 Route 41 and the lake (Lo-
 cation 4). Sample was a tar-
 like semisolid.
 DATE: 08-01-90
 PHOTOGRAPHER: D. Locy *DL*

PHOTO NO: 08
 SITE NAME: TORCH LAKE SAMPLING
 Hubbell, Michigan
 DESCRIPTION: Solid drum sample #70 was
 collected along a bank near
 the old wastewater treatment
 lagoons (Location 3). Sample
 appeared lava-like.
 DATE: 08-01-90
 PHOTOGRAPHER: D. Locy *DL*





PHOTO NO: 09
SITE NAME: TORCH LAKE SAMPLING
Hubbell, Michigan
DESCRIPTION: Solid drum sample #71 was
collected along a bank near
the old wastewater treatment
lagoons (Location 3). Sample
appeared lava-like.
DATE: 08-01-90
PHOTOGRAPHER: D. Locy *DDL*